

April 29, 1983

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Cost-Effectiveness Analysis - Western Processing Emergency Response

Robert G. Courson, Chief  
Field Operations and Technical Support Branch

The Files - For the Record

Re: EPA Region 10 Memo, "Emergency Cleanup, Western Processing, Kent, Washington," From James C. Killman, OCS, To Henry Van Cleave, EPA Headquarters.

The above referenced memo documents the overall cost effectiveness of three options for cleanup and site stabilization based on best available technical and cost information as of April 27, 1983. The memo recommends that Option 3 (stabilization of bulk materials on-site, remove and dispose of bulk liquids and drums off-site) is most cost-effective for EPA and should be the selected approach.

The cost table of the referenced memo is organized from available on-site data and cost projections in a way which allows comparison of each options total costs, but not internal item comparison between options. The purpose of this memo is to document the significant internal item cost comparisons between options as presented and discussed at a meeting on Friday, April 29, 1983, prior to finalizing the referenced memo and recommended option and transmitting it to EPA headquarters. Meeting attendees were C. Findley, D. Booden, R. Courson, J. Killman, J. Moore, M. Garcia of the regional office and D. Marshall of the U. S. Attorneys office.

The table in the referenced memo shows a number of items which are "consistent" between options, i.e., site stabilization, government personnel (time variation only), bulk solid materials (fertilizer, zinc, flue ash, battery chips). The bulk solids are equal between Options 1 and 3, and are the very large cost items of Option 2 (complete removal) which takes the option beyond emergency response dollar limits. The remaining items (ponds, tanks, drums) are the significant items which drive the cost-effectiveness determination between Options 1 and 3. Table 1 details the item by item cost comparison between Options 1 and 3 for ponds, tanks and drums.

Several technical judgements were made on the basis of the partial on-site information available:

- (1) For Option 1 the determination that overpacking of at least 2000 of the 2500 to 3000 drums containing hazardous liquids would be necessary to assure on-site stability during the assumed 2 to 3 year on-site storage time until full remedial removal occurred. Most of the existing drums on-site are judged to be in poor condition. Conversely, for Option 3, rebarreling in new drums (which is much cheaper) was determined to be adequate for immediate removal and disposal.

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- (2) For the same reasons as in (1), new tankage would be required for on-site storage of tank and pond hazardous liquids, as opposed to Option 3's bulk transport and disposal off-site.
- (3) The on-site storage costs of Option 1 includes an apportionment by volume of on-site fluid pumping and stabilization costs. See Table 1 for these amounts in each drum, pond and tank itemization.
- (4) If the synfuel (or other wastes on-site with some potential value) could be sold and moved off-site, some costs would be saved under each option. In the event that the synfuel cannot be sold, i.e., has no current market value, it is not cost effective to spend approximately \$200,000 to store on-site a waste that has had, from past records, a value of about \$54,000, as shown in Table 1.

Options 1 and 3 are equally effective in achieving the minimum level of federal response necessary to the abatement of the hazard, i.e., the prevention of migration of hazardous materials through soil to groundwater. Therefore, since Option 3 is significantly less costly for the same effectiveness, it is the recommended option.

Attachment

TABLE 1

	OPTION 1 Stabilize All Hazardous Mtrls On-site	OPTION 3 Stabilize Solid Mtrls On-Site and Cost-Effect Removal Hazardous Liquids
<u>Drums</u>		
Repack	-	17,000
Overpack	280,000	-
Pump Fluids and Stabilize	35,000	-
Transport and Dispose (T&D)	-	233,000
SUBTOTAL	\$315,000	\$250,000
<u>Ponds</u>		
Repair Liner	30,000	30,000
T&D	-	80,000
New Tanks	165,000	-
Pump and Stabilize	95,000	-
SUBTOTAL	\$290,000	\$110,000
<u>Tanks</u>		
Test	15,000	15,000
T&D	-	88,000
New Tanks	178,000	-
Pump and Stabilize	100,000	-
SUBTOTAL	\$293,000	\$103,000
<u>Surveillance</u>		
Site for 2 Years.	25,000	-
TOTAL	\$923,000	\$463,000

"IF SOLD" example - Synfuel value = 155,000 gal x \$0.35/gal = \$54,000